

Secondary Transition Academy

Employment Training and Supports



Module 3 Community-Based Job Training



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Module 3 - Community-Based Job Training

As you learned in Modules 1 and 2, planning for employment is an important component of transition planning. The importance of employment planning is highlighted by the fact that a student with disabilities opportunity for securing paid, competitive employment is increased if he or she participates in community-based job training during high school (Benz, Lindstrom, & Yovanoff, 2000; Hasazi, et al. 1989). Research also suggests that when students with disabilities are provided with adequate employment training and support, they can be gainfully employed (Wehman & Revell, 1997; Wehman, Revell, & Brooke, 2003). Well-structured community-based programs help students build a core set of skills needed for inclusive employment. The most effective way to prepare students for the demands of adult living is by providing instruction in community-based settings (McDonnell & Hardman, 2010). However, simply providing access to community-based employment settings will not teach students the necessary skills for employment. Rather, instructional programs should be tailored to the individualized needs of the student. Therefore, certified teachers and paraeducators need to understand how to use empirically validated teaching strategies that promote the acquisition, maintenance, and generalization of new skills. Module 3 will provide information on how to develop instructional programs for teaching employment and employment-related skills. After completing this module, you will be able to:

- Operationally define student learning objectives.
- Understand how to use response prompting and fading procedures including:
 - System of most-to-least prompts.
 - System of least-to-most prompts.
 - Constant time delay.
 - Error correction.
 - Reinforcement strategies.
- Describe the prompt hierarchy.
- Develop a worksite analysis.
- Develop a task analysis.
- Understand data collection and summary formats.

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Establish Training Objectives

An important part of developing instructional programs for students with disabilities is to


Operational Terms

Which of the following terms is neither observable nor measurable? Explain why.

Writes	Understands	Names
Initiates	Demonstrates	Touches
Mops	Stack	Sweep
Reads	Reads orally	Anger
	Aggression	

Response:

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establish specific training objectives. Specific objectives help the student and the team understand exactly what needs to be accomplished in an employment setting. Student training objectives are identified through the assessment procedures described in Module 2 and are developed by the student and his or her team. In addition, the objectives are also discovered during job sampling and training at jobs in the community. Each objective should be written using operational terms that are both observable and measurable. The objective should include the conditions under where the skill will be performed, the operational response, and include

the criteria that will be used to evaluate performance objectives.

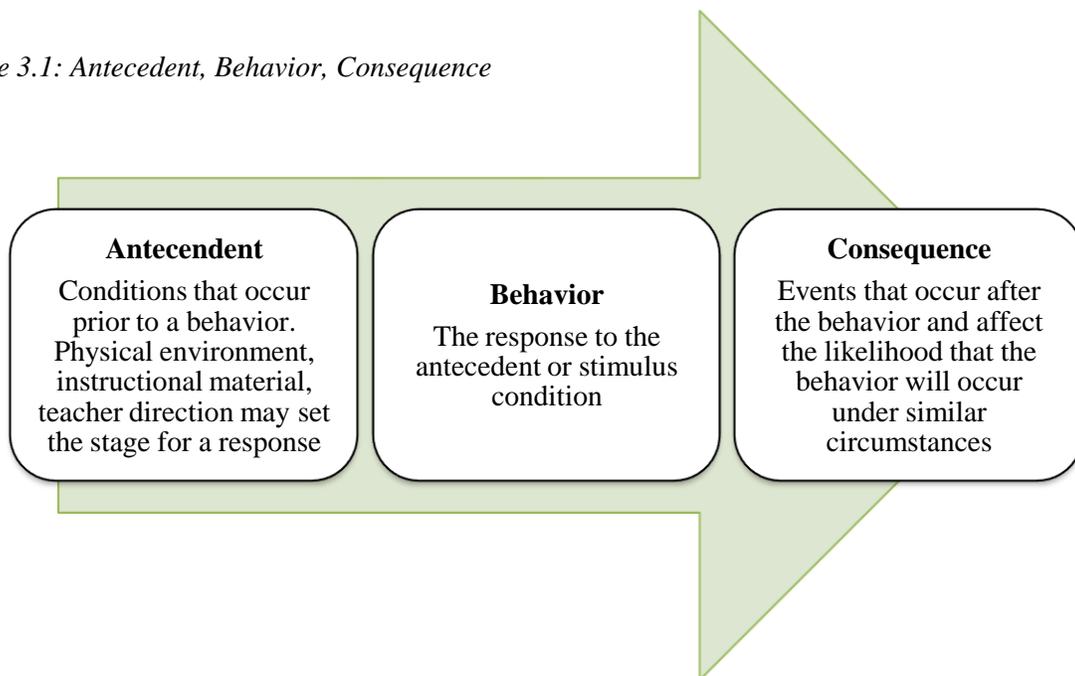
The condition describes the context of the student performance such as materials to be used, assistance provided, and where the behavior will be performed. The response describes what the student should be doing in both observable and measurable terms. The criteria describe the standard or performance criteria a student must meet to master the target skill or routine. Objectives should be written so two independent observers, who watch the student perform the target skill, would generally agree that the target skill occurred. If the description is written using ambiguous non-descript terms, it becomes difficult to teach the skill and collect meaningful performance data. Consider the following example of an objective that is neither observable nor measurable and has no condition or criterion statement: “Bill will clean the men’s and women’s restrooms.” The problem with this example is that “clean” can mean a variety of things such as cleaning the sinks, toilets, or windows. The purpose of writing an objective is to

highlight a target routine or skill that needs to be taught to the student. While cleaning the restroom is part of an overall job description, Bill only needs instruction on correctly mopping the floors. Therefore, a more appropriate objective is: “Given a mop and bucket, Bill will mop the men’s and women’s restrooms with 100 percent accuracy according to the steps outlined in the task analysis for three consecutive probes.”

Acquisition of New Behaviors and Skills

The principles of *operant learning* are typically used in special education settings to teach new discrete or chained responses to student with moderate to severe disabilities. Operant learning assumes that all behavior is a function of the environment and that behaviors occur because of specific cues and reinforcement. Operant learning/behavior theory, therefore, is built on the assumption that any learning sequence has three primary components: antecedent, behavior, and consequence (Wolery, Bailey, & Sugai 1988). The *antecedent* (sometimes called discriminative stimuli) is an object or an event that sets the stage for the occurrence of a desired

Figure 3.1: Antecedent, Behavior, Consequence



behavior. The antecedent may occur naturally or it may be introduced by a teacher. The *behavior* (sometimes called the response) is the specific observable behavior the student emits as a result of the target stimulus. The *consequence* is an object or event that occurs directly after the student emits the target response.

When students are having a difficult time learning a new task or skill, teachers need to either systematically control and highlight the stimulus, the response, or consequences. For example, during acquisition of a target skill, the teacher provides the controlling prompt to the student. Prompting continues until the student demonstrates reliable performance (called *stimulus control*). The outcome of teaching students with moderate to severe disabilities is to transfer stimulus control from the teacher to the student. That is, as the student learns the target skill, the prompt is gradually faded so the student independently responds to both antecedent and consequences and the student emits the target behavior because of the environmental condition(s) rather than teacher prompts.

Instructional Strategies

When teaching a new skill, it is important to understand how to use cues and prompts to elicit a response from a student. It is equally important to understand how to fade specific cues and prompts so that the student becomes more independent in community settings. The following section describes instructional strategies that can be used in employment and community-based contexts.

Prompting

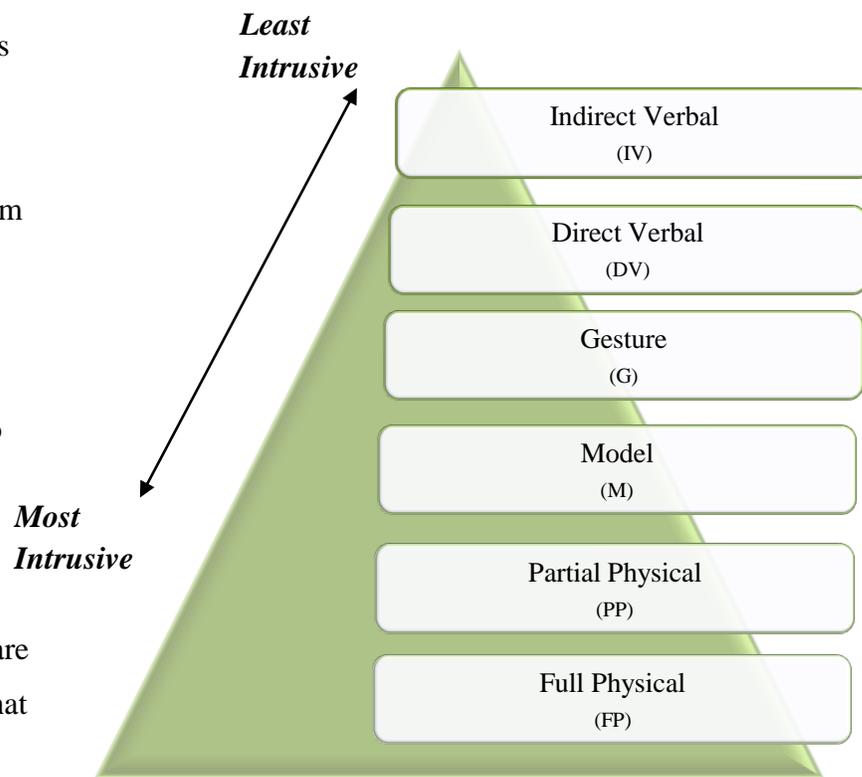
Oftentimes, teachers need to provide specific prompts to elicit a response from students with moderate to severe disabilities.

Researchers refer to these prompts as response prompts.

Response prompts are teacher behaviors that are presented to

increase the probability of correct response (Wolery, Bailey, & Sugai 1988). Response prompts

Figure 3.2 Illustration of the Prompt Hierarchy



are designed to make learning more positive and increase the efficiency of instruction by eliminating student errors. Typically, an array of prompts, called the prompt hierarchy, is used to teach students with moderate to severe disabilities (figure 3.2). Each prompt is designed to increase the likelihood that a student will elicit the correct response and the type of prompt used is determined by the amount of assistance the student needs to complete the task. *Indirect verbal* prompts are hints about the expected behavior. For example, if a student is learning to mop, the teacher says “what do you need to do now?” *Verbal prompts* are direct statements that help the student perform the correct response. “You need to mop the bathroom stalls.” *Gestures* are signals that cue the student to complete a task. The paraeducator points to the restroom stall. A *model* is a demonstration of the correct behavior. The paraeducator mops a stall and then asks the student to mop another. A *partial physical prompt* is touching the student without controlling the behavior. The paraeducator taps the student on the elbow to prompt him to mop the stall. A *full physical prompt* is hand-over-hand assistance so the student performs the target behavior. The paraeducator, with hand over hand, guides the mop. It is important to note that full physical prompts are not used to force a student to complete a task, but rather it is used to assist a student who may have motor control problems.

According to Wolery, et al. (1988), there are six primary guidelines for using response prompts. In order to maximize the effectiveness of an instructional program and increase the effectiveness of the response prompt it is recommended that these guidelines be followed:

- *Select the least intrusive but effective prompt:* Teachers should always use the least intrusive prompt that effectively elicits the correct target behavior from the student. That is, the instructor should allow the student to perform the target behavior as independently as possible.
- *Combine prompts if necessary:* Prompts can also be combined or blended to increase instructional effectiveness. For example, the instructor can blend a model with a direct verbal.
- *Select natural prompts and those related to the behavior:* Teachers should use prompts that reflect natural behaviors. That is, prompts should resemble behaviors that are used naturally in environments.
- *Prompt only when the individual is attending:* Response prompts are designed to assist an individual in performing a specific target behavior; therefore, it is important

that the individual is attending to the task at hand. If the individual is not attending, then he or she will not learn the target behavior.

- *Provide prompts in a supportive, instructive manner:* The purpose of response prompting is not to punish or adversely affect individual behavior. Therefore, prompts should never be used in a corrective manner; rather, they should be used to facilitate learning of a target behavior.

Reinforcement Strategies

Another important component of instruction is providing appropriate reinforcement and error correction. Reinforcement should always be age-appropriate and should not include practices that potentially stigmatize the student. For example, many special education classrooms use token economies to reward students for on-task behavior. While this practice may be acceptable for younger students with disabilities, it could stigmatize transition-age students who are participating in community-based employment sampling and training programs. Another important issue to address is the use of food as reinforcement. Food should never be used to reinforce a student with a disability, especially in job sampling and job training programs. The most effective way to reinforce a student is verbally (e.g., “you are doing a great job!”). During acquisition of new skill or routines, reinforcement should be provided to the student immediately following a correct response. Reinforcement should be gradually faded to natural reinforcement as the student learns the new skill.

Reinforcement

What are some potential problems with using food and drink to reinforce students in an employment setting?

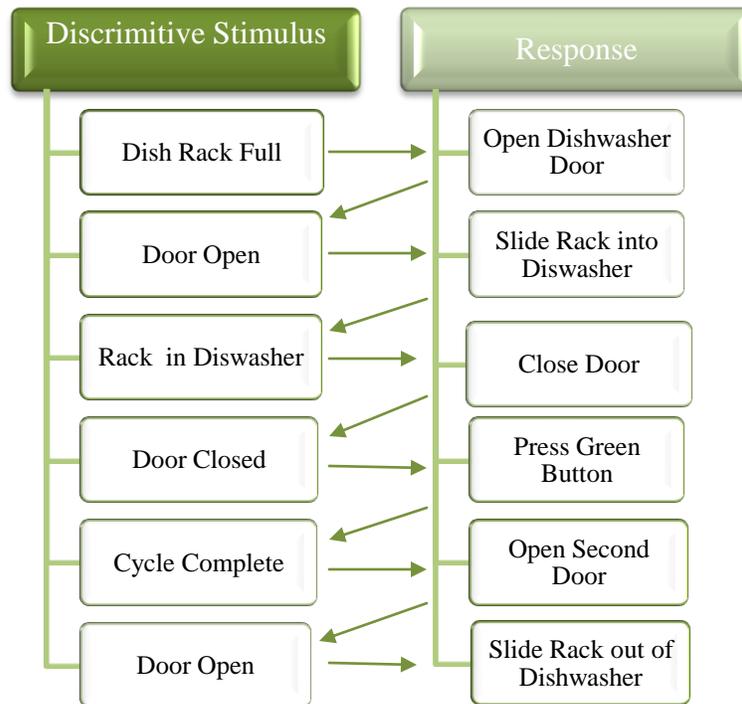
Response:

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Chaining Strategies

Most tasks that students perform in an employment setting are comprised of a series of discrete responses that when performed in sequences form a complex skill. That is, most routine

Figure 3.2: Chaining



activities have specific controlling stimulus that prompt students to respond to a specific step and become behavior chains. In behavior chains both the stimulus and response are performed as a single unit because each controlling stimulus sets the occasion for a response and each controlling stimulus simultaneously serves as a conditioned reinforcement for the previous response.

Behavior chains are an important teaching strategy in employment settings because they allow teachers to breakdown a complex skill into teachable units. Figure 3.2 is an illustration of a chained task for running a dishwasher in a restaurant. In this example, you see that each of the discrete response make up a complex skill. It is important to breakdown complex skills to teachable units because when teaching a student with moderate to severe disabilities a complex task you run the risk of the student not being able to complete some or all of the steps. A behavior chain allows you to provide assistance on each step of the task until the individual can perform the steps independently. With chained tasks, several chaining strategies can be used, including: forward chaining, backward chaining, and total task chaining (Wolery, Ault, & Jones 1992).

Forward Chaining

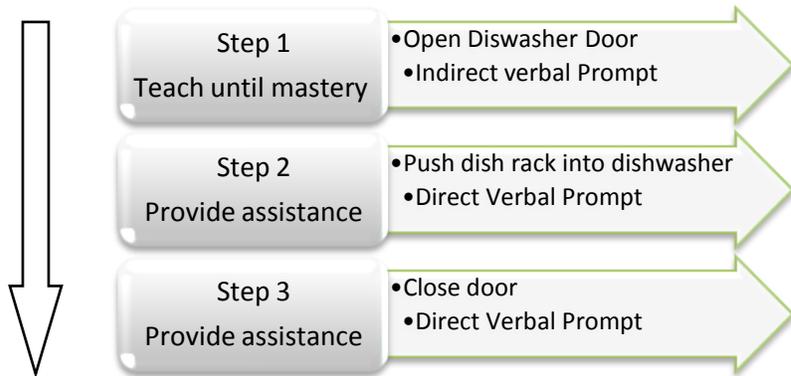
When using a forward chaining strategy, the teacher begins instruction on the first step of the task analysis. Response prompts are used until the individual reaches the specified criterion

for the step. Once the student can perform the step independently, the teacher begins instruction on the next step in the chain. These steps are repeated until the individual can

perform the target activity or routine independently. Figure 3.3 illustrates how a forward chain is used. In this example, a system of most-to-least prompts is used to teach the student how to run the dishwasher. The

controlling prompt for step 1 is an indirect verbal and step 2 and 3 requires a direct verbal. In a forward chain, the teacher fades the prompts on step 1 until mastery and provides assistance on the remaining steps. When the student can complete the first step without assistance, step two is taught until the student reaches criterion. This process is repeated until all of the steps are completed without assistance.

Figure 3.3: Forward Chaining

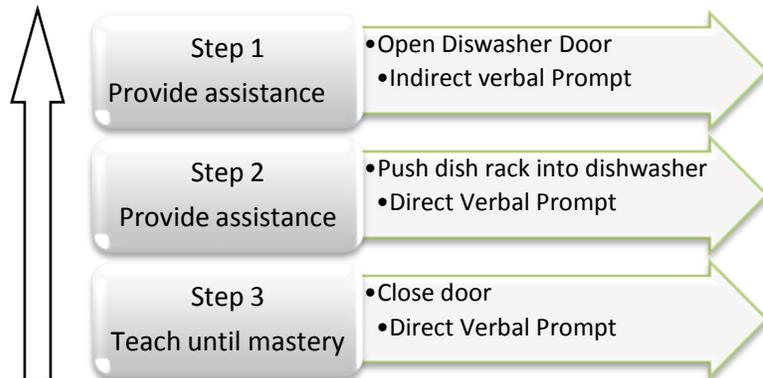


Backward Chaining

The steps in the backward chaining strategy are similar to forward chaining except that instruction begins on the last step and works backward toward the first step. Figure 3.4 is an example of a backward chain. In this example, the sequence of steps is analogous to the steps

outlined in the forward chain. The difference, however, is where the teacher begins instruction on step 3 of chain. In this example, the teacher provides the necessary assistance need to complete steps 1 and 2 and then teaches the student step 3. Once the individual reaches a pre-determined criterion, the prompting level is then faded until the individual can perform the step independently and the teacher works backward and teaches next step on the chain.

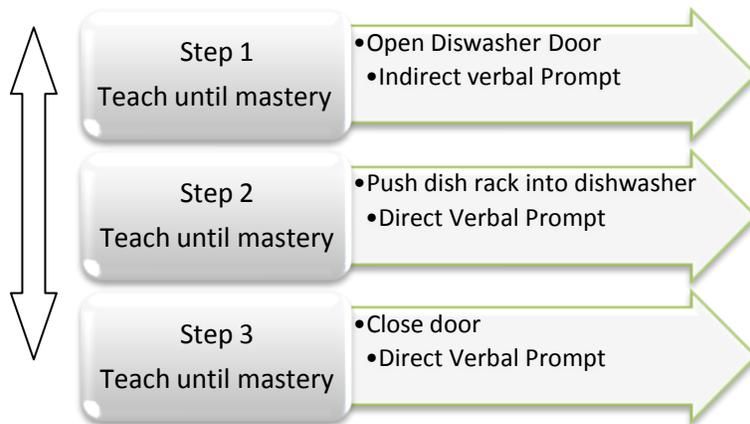
Figure 3.4: Backward Chaining



Total Task

When using a total task approach, the teacher teaches and fades assistance on all of the steps in chain simultaneously. Total task chaining is the recommended strategy to use during acquisition of a new employment skill.

Figure 3.5: Total Task



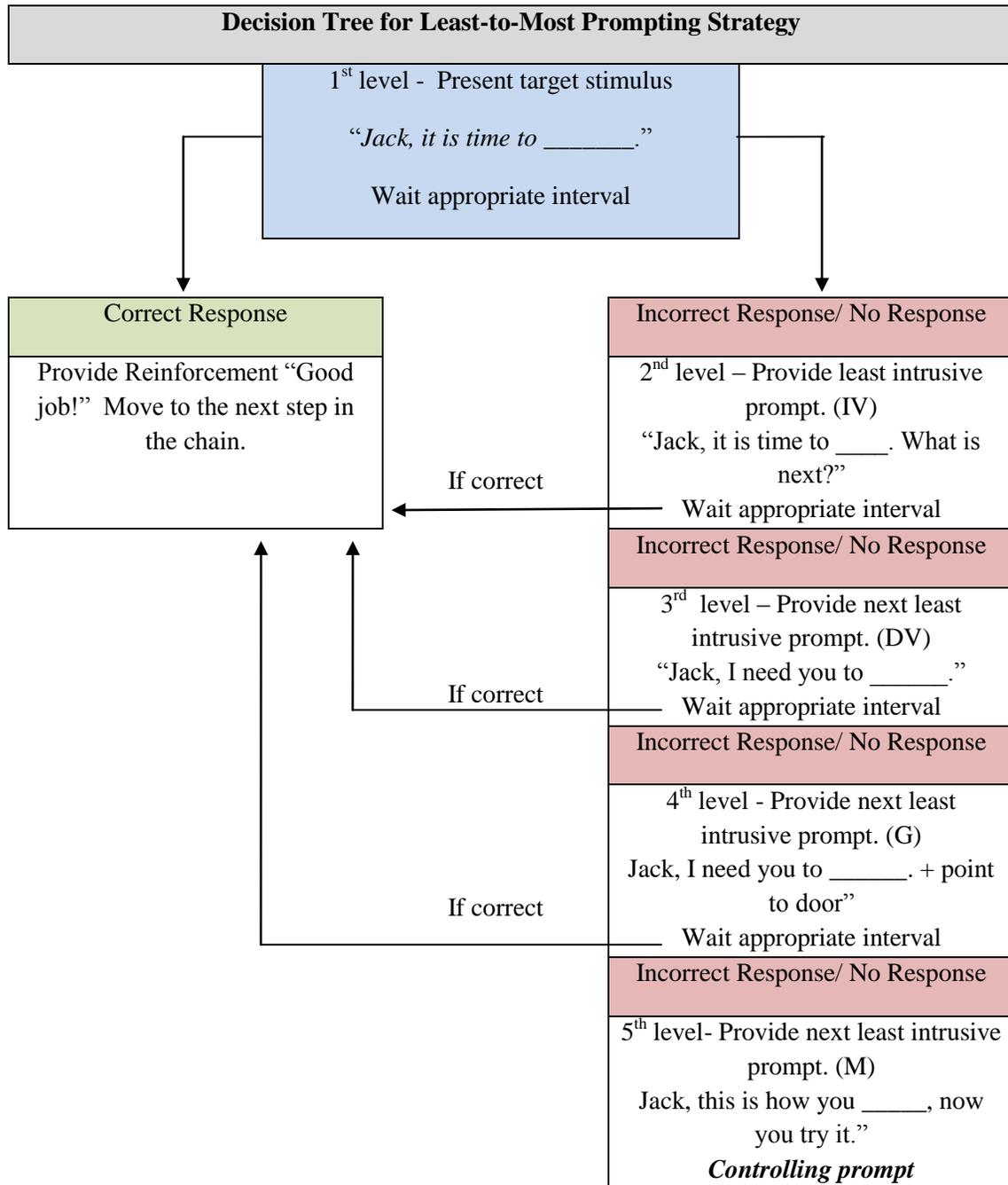
Prompt Fading Procedures

Prompt fading strategies are used to systematically fade teacher prompts so that the student can independently perform a skill or routine. The use of prompt fading strategies is particularly important in community-based employment settings because we want students to independently complete job duties. There are a variety of response prompting strategies that are designed to be used for different learning situations, including: antecedent prompt and test procedure, most-to-least prompts, least-to-most prompts, antecedent prompt and fade procedures, graduated guidance, constant time delay, and progressive time delay. For the purpose of teaching students employment and employment-related skills in community-settings, we will examine least-to-most prompts, most-to-least prompts procedures, and constant time delay.

Least-to-most prompts

The system of least-to-most prompts is an instruction approach that allows the student to respond at the level of prompt they need to complete the target behavior. This system uses the prompt hierarchy described above and must contain at least three levels of prompting (Wolery, Ault, & Dole, 1992). Figure 3.6 is an illustration of a decision tree for the least to most prompting procedure.

Figure 3.6: Least-to-Most Prompting



The first level is the opportunity to respond without a prompt. During this level, you need to specify a response interval or the time that should elapse before you introduce a prompt (usually a couple of seconds). The second and remaining levels use prompts arranged from the least intrusive to the most intrusive assistance level. The prompting continues until a *controlling*

prompt is established; the controlling prompt is the prompt that elicits the correct response from the student. Least-to-most prompting works off the assumption that over time the student will eventually perform each step correctly before a prompt is delivered.

Most-to-least prompts

The system of most-to-least prompts is an instructional strategy that systematically fades the instructor’s assistance from the point of the most amount of assistance needed to ensure a correct response to the point where the individual can perform the target behavior independently. The teacher conducts baseline on the desired skill or routine using a system of least-to-most prompt to determine the controlling prompt. Once the controlling prompt is identified for each step, the teacher establishes a criterion for fading to the next least intrusive prompt level. When using a most-to-least prompting strategy, it is important to occasionally probe student performance at least intrusive levels. These probes allow you to assess student progress and determine if adjustments need to be made in the fading procedures.

Figure 3.7: Most-to-Least Prompting

Most-to-Least Prompting Steps		
Instructional Steps	Example Fading Procedures	
	Steps	Fading Procedure
<i>Step 1:</i> Conduct baseline to determine controlling prompt for each step in the chain.	Open dishwasher door	1. (V) “Open dishwasher door. 2. (IV) “What is next?” 3. Independent
<i>Step 2:</i> Establish a clear criterion for fading to a least intrusive prompt.	Slide rack into dishwasher	1. (IV) “What is next?” 2. Independent
<i>Step 3:</i> Begin instruction using the controlling prompt identified for each step.	Close door	1. Independent
<i>Step 4:</i> Fade prompts according to the established criteria.	Press green button and wait for cycle	1. Independent
<i>Step 5:</i> Probe and adjust fading procedure accordingly.	Open door	1. (DV) “Open dishwasher door.” 2. (IV) “What is next?”
	Slide rack out of dishwasher	1. (DV) “Slide rack out.” 2. (IV) “What is next?” 3. Independent

Constant Time Delay

Constant time delay is an errorless instructional strategy that involves fading a prompt over time. The procedure requires the teacher to define a controlling prompt that will be used to consistently assist the student in completing a target task. For example, a teacher may use a direct verbal prompt to assist an employee during a mopping routine outline in a task analysis. The first step in the procedure is to establish stimulus control; the teacher needs to make sure that the student can perform the skills outlined in the analysis. Stimulus control is established by using a 0-second time interval until the employee demonstrates that he can perform each of the tasks. When stimulus control is established, the teacher uses a 3 to 5 second interval before delivering the prompt. For example, the teacher tells the student it is time to mop the men's restroom, and then waits 3 seconds before verbally prompting the employee to complete the first step in the task analysis. If the student performed the step correctly, then the teacher provides feedback and moves to the next step.

Developing an Instruction for Employment Settings

A comprehensive instructional program should be used when a student participates in a community-based job training program. The program will be an important part of teaching a student job-related skills. Student progress should be regularly tracked so that specific adjustments can be made to the instructional program.

Job Analysis

The first step in developing an appropriate instructional employment program for students with disabilities is to conduct an analysis of the working environment. In order to accomplish this task, the performance demands of individual tasks and routines are documented, including essential and non-essential functions of the job. The analysis should include a structured list of times, locations, speed and quality criteria for each task or routine. The first step to developing the analysis is to talk to the employer, co-worker, and/or supervisor to determine the specific requirements of the job. Next, observe the student performing each of his or her scheduled work tasks.



During the observation, document any performance issues the employee has with specific task or routines.

The job analysis should be completed within the first days at the job training site to promptly assess what task or routines the student needs assistance to complete. Once these skills are identified, a task analysis should be developed to teach the skill to the student. Figure 3.7 is an example of a job analysis for a student who cleans the restrooms at a consulting firm.

Figure 3.7 Example Job Analysis

Job Analysis Form					
Employer: J and R Consulting					
Address: 4567 East Canyon Way. Helper, Utah 84114					
Supervisor: Jan Hireder Phone: 435-999-0989 Email: Jan.Hireder@jandr.com					
Training Schedule:					
Monday: 9:00 am – 11:15 am Wednesday: 9:00 am – 11:15 am Friday: 9:00 am – 11:15 am					
Notes					
<i>Uniform or Dress Requirements: Pants and clean shirt. Shoes with nonslip soles.</i>					
Time	Description of Job Duty	Speed	Quality	Task Analysis Required	
				Yes	No
7:00-7:10	Set up cart: Fill mop bucket, get rags and cleaning supplies	10 min	Mop bucket is dirty		X
7:10-7:30	Clean men’s restroom (sinks, toilets, mirrors)	20 min	Streaks in mirror		X
7:30-7:40	Mop men’s restroom	10 min	Mop too wet...Too much water on floor	X	
7:45-8:05	Clean women’s restroom (sinks, toilets, mirrors)	20 min	Streaks in Mirror		X
8:05-8:15	Mop women’s restroom	10 min	Mop too wet...Too much water on floor	X	
8:15-8:30	Return Mop bucket and supplies, rinse and clean mop	15 min	Mop and bucket not clean		X

The analysis should provide specific business information, the contact information for the supervisor, and the times the student will be training at the business. The analysis should also include information about dress requirements and other relevant information about the job site. Finally, the analysis should include (1) time and description of job duty, (2) speed and quality requirements, and (3) information about which components of the job the student needs assistance.

Task Analysis

Task analysis is developed when students are having a difficult time completing a specific job task or routine. Task analysis is useful because it highlights discrete skills that are part of a larger sequence; these discrete skills are subsequently taught to the student. When the discrete skills are performed in a sequence they form a chain. The best way to develop a comprehensive task analysis is to complete the routine yourself. While you complete the routine, document each step in the chain in observable and measurable terms. Each step that is listed on the TA should have a clear beginning and ending point.

Figure 3.8. TA for Mopping a Restroom

Task Analysis		
Task/Step	Speed	Quality
Locate and grab mop		
Wet mop in bucket		Mop too dirty
Wring mop out until no dripping water		Mop too wet
Mop stalls 1-3	5 minutes	Floor still dirty/floor too wet
Rinse and wring mop out		Mop to wet
Mop under sinks		Floor dirty/wet
Mop floor starting at southeast corner working toward exit door		Floor dirty/wet
Rinse and wring mop out.		Mop to wet
Time	14 minutes	

The TA should also include information about the speed requirements to complete the routine. Most employment activities or routines require an individual to perform a specific task in a timely manner. Finally, you need to identify quality requirements. Most employment routines or activities have specific quality criteria; if the employee performs work that does not

meet quality standards, then he/she must improve his/her overall quality. Figure 3.8 is an example of a task analysis for mopping a restroom.

Baseline Data

Baseline probes should be conducted to effectively assess an individual's performance in specific employment routines or tasks. Baseline probes are structured to provide observable information about the steps an individual can perform independently and the steps the individual can perform with assistance. The probe condition must be conducted in the environment where the student is expected to perform and minimal instruction, assistance, and feedback are provided to the individual during a baseline probe. During a baseline probe, a least-to-most prompting strategy is used; when the student makes an error, the teacher provides increasing levels of assistance until the student completes the step. The prompt level that elicited the response is documented on the data sheet. At a minimum, three baseline probes should be conducted. Figure 3.9 is an example of a baseline probe for mopping the men's restroom.

Figure 3.9. Baseline Data

Steps	5/20/10	5/21/10	5/22/10
Locate and pick mop up	+	+	+
Wet mop in mop bucket	+	+	+
Wring-out mop until no dripping water	V	V	V
Mop stalls 1-3	M	M	M
Rinse and wring-out mop	IV	IV	IV
Mop under sinks	+	+	+
Rinse and wring-out mop	IV	IV	IV
Mop floor starting at southeast corner working toward exit door	+	+	+
Rinse and wring-out mop	DV	IV	IV
Total time in minutes	5:33	6:00	5:45
Key - + = Independent. IV = Indirect Verbal V = Direct Verbal G = Gesture M = Model PP = Partial Physical FP = Full Physical			

Sequence Specific Prompts

Once baseline has been established, specific prompts need to be sequenced to teach the student the employment skill. The instructional sequence should contain procedures to systematically fade prompts to natural stimulus, procedures for error correction, and procedures for reinforcement. In order to complete this task, the data collected during baseline probe is used



to develop the sequence. Using the system of most-to-least prompts, begin instruction with the prompt level the individual needs to successfully complete the step.

Movement to the less intrusive step is contingent prespecified criterion of correct responding. In the example below, the prompts were sequenced based on the data collected during baseline. The student completed steps 1 and 2 independently so no

prompting is required. On step three, he needed a verbal prompt to complete the task, so instruction starts with a verbal prompt. After two consecutive successful trails at a verbal prompt, you faded to an indirect verbal prompt. The process is used on each step of the behavior chain and continues until the individual can perform the step under natural conditions.

The shaded areas of the data sheet indicate that the employee can successfully complete the step. If the individual makes an error in the sequence, you need to stop the individual and provide him or her with verbal feedback that he or she did not perform the step correctly. After you have provided the student with feedback, you ask him/her to repeat the step at the previous prompt level. Regardless of disability, students will make some type of error during the initial acquisition of a new behavior. Simply saying that the individual did not perform the behavior correctly is not an effective teaching method for people with disabilities. Therefore, if a student makes an error during acquisition, it is critically important that he or she be provided with systematic feedback about the error and be prompted to correctly perform the target skill. Reinforcement should always be age and environmentally appropriate and typically includes verbal acknowledgement that the individual completed the step (i.e., “Good Job”).

Figure 3.10 Sequence of Prompts

Step	Prompt	Date	Date	Date	Date	Date
1. Locate and pick mop up	no prompt					
2. Wet mop in bucket	no prompt					
3. 3. Wring-out mop until no dripping water	1. "Bill, Wring-out mop" 2. "What is next?"	1+	1+	2+	2+	
4. Mop Stalls 1-3	1. "Let's mop stalls 1-3" + model. 2. "Mop stalls 1-3" 3. "What is next."	1+	1+	2+	2+	3+
5. Mop Under sinks	no prompt					
6. Rinse and wring-out mop	1. "What is next?"	1+	1+			
7. Mop floor starting at SE corner working toward exit	no prompt					
8. Rinse and wring-out mop	1. "What is next?"	1+	1+			

Compensatory Strategies

Oftentimes, comprehensive instructional programs can be enhanced by teaching an individual to recognize external cues or reminders to complete a task. In this case, you can develop compensatory strategies to enhance an individual’s ability to independently perform a job. There are a variety of strategies that you can employ, including picture books, memory cards, and written check-off lists. Each of these strategies must be individualized and care must be taken when designing the materials so that they do not stigmatize the student.



Instructional Sequence

You are working with a student who has to wear work shoes at his job training site. He changes his school shoes to the shoes at the jobsite. However, he does not know how to tie his shoes. You need to develop an instructional program to teach him this important skill. Below is the baseline data you collected. Develop an instructional sequence.

Cue	Step	1/22	1/23	1/24
Shoe untied	Grasp ends of laces	+	+	+
Laces in hand	Pull laces tight	+	+	+
Laces tight	Cross laces	+	+	+
Laces crossed	Tuck one lace under crossed laces	M	M	M
Lace tucked under lace	Pull tight	V	V	V
Laces tight	Make loop (bunny ear)	M	M	M
Loop in hand	Wrap other lace around bottom of loop	V	V	V
Lace wrapped around loop	Pull through hole	+	+	+
Lace trough hole	Pull tight	+	+	+
Repeat for other shoe				

Picture Books

Picture books can be used to assist an individual with remembering his or her work schedule. You can use a variety of media to include in a picture book such as clipart and digital photography. Regardless of the material used, the pictures should be concise, the book should be

age-appropriate, and it should be durable. For example, if you are teaching a person how to water plants at a garden shop, the picture book should follow a specific sequence with easy to follow pictures.

Check-off Lists

Another effective compensatory strategy is to use written daily check-off schedules. These schedules should be developed for each task or routine in which the individual needs some self-assistance.

Data Collection

Collecting data is not a favorite activity for many individuals; it is often seen as a time-consuming, arduous task that does not provide any real benefit. Without proper data, however, you have to make guesses or estimates about the amount of progress a student is making on learning a new task or skill. Effective data collection and summary techniques, allow the teacher to individualize instruction, systematically determine the status of student learning, to monitor and determine instructional effectiveness, to provide feedback to the student, and to demonstrate accountability.

Methods for Data Collection

There are a variety of data collection formats that can be used to measure a specific behavior(s). Specific data collection formats should be selected based on the behavior that needs to be measured. For behaviors that are more discrete in nature, a teacher may elect to use event recording, duration, latency, or interval data collection formats. For behaviors that require a

Figure 3.11 Event recording

Name: Don Julio Date: 11/1/2006
 Behavior: Inappropriate Verbal talk-outs

Day	Time Observed	Record of Behavior	Total
Monday	10:00 – 10:30	1111	5
Tuesday	10:00 – 10:30	1111	4
Wednesday	10:00 – 10:30	1111 11	7
Thursday	10:00 – 10:30	1111	4
Friday	10:00 – 10:30	1111 1	6
Total			26

student to perform a sequence or a chain of events, task analytic formats like the ones describe above will be more appropriate.

Event Recording

Event or frequency recording is an easy method to collect data on

a behavior that has a clear beginning and ending point. Recording data is achieved by counting and recording the number of times a specific response occurs. In the figure 3.11, the number of inappropriate verbal talk-outs is recorded for half-hour periods each day.

Duration Data

Duration data refers to the amount of time it takes an individual to perform a behavior.

Duration data are collected by timing from the beginning of a behavior to the end of a behavior. Duration measures are particularly important in employment settings because employees are often required to complete task in a certain time period or attend to a task for a required period of time (figure 3.12).

Figure 3.12. Duration Data

Name: Shamas Date: 9/01/2006
 Behavior: Folding 20 clean towels
 Setting: Hilton Hotel

Start Time	Stop Time	Duration
10:00	10:20	20
11:00	11:30	30
12:15	12:50	35
Total work Time		85 minutes

Latency Data

Latency refers to the amount of time between the end of an antecedent or prompt and the

Figure 3.13. Latency

Name: Alberto Date: 9/01/2006
 Behavior: When prompted gathers material to perform janitorial work.

Date	Morning Latency	Afternoon Latency
9/1	80 seconds	120 seconds
9/2	90 seconds	80 seconds
9/3	79 seconds	99 seconds
Average Latency	83 seconds	99.6 seconds

beginning of a response.

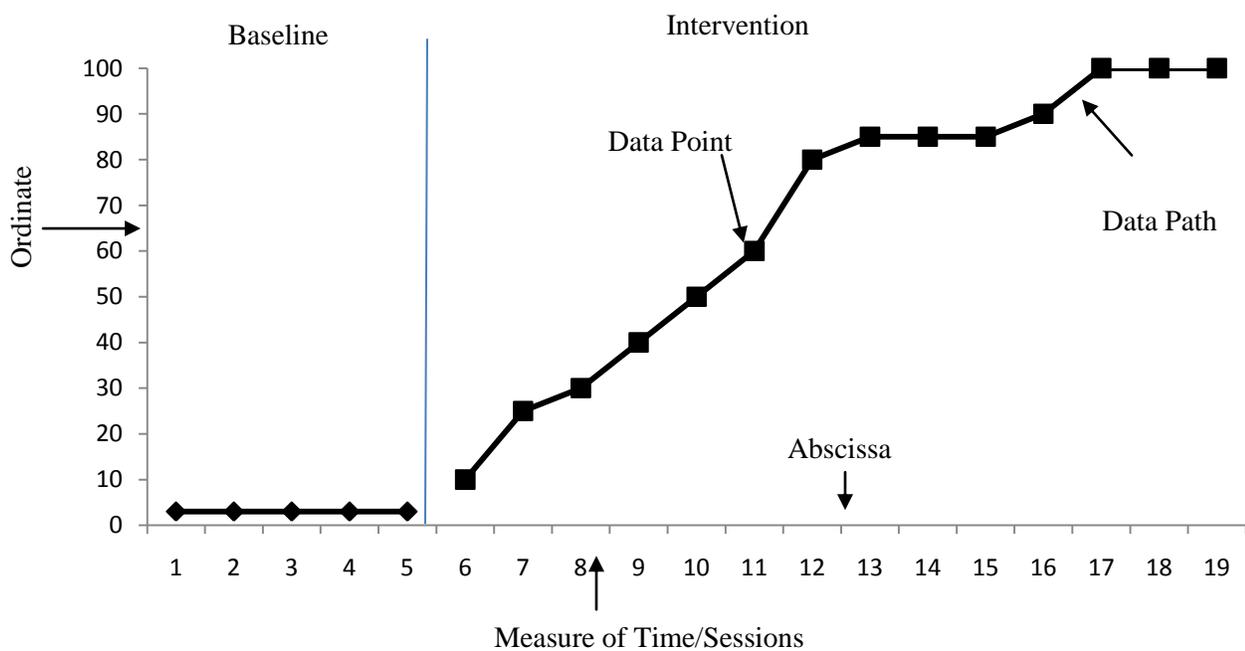
Latency data are typically collected when the speed in which an individual initiates a response is in concern. For example, if a student is working at a supermarket and is expected to interact with customers and does not

respond to question within a few seconds, the student would be viewed as unfriendly. Therefore, the teacher would need to develop a program to teach the individual responding skills and measure the latency of response (figure 3.13).

Summarizing and Graphing Event, Duration, and Latency Data

The primary reason to collect data is to make decision about the students learning and the efficacy of the instructional program. To facilitate your ability to make data-based decisions, raw data need to be summarized and visually displayed on a graph or chart. Figure 3.14 provides an illustration of the mechanics of a line graph. All line graphs consist of horizontal and vertical axis or lines. The horizontal line is referred to as the abscissa and the vertical line is referred to as the ordinate. The abscissa is used to represent time or sessions and the ordinate is a measure of the behavior. To convert raw data into specific units of measurement, you can either use rate, percentage of correct/incorrect response, or time.

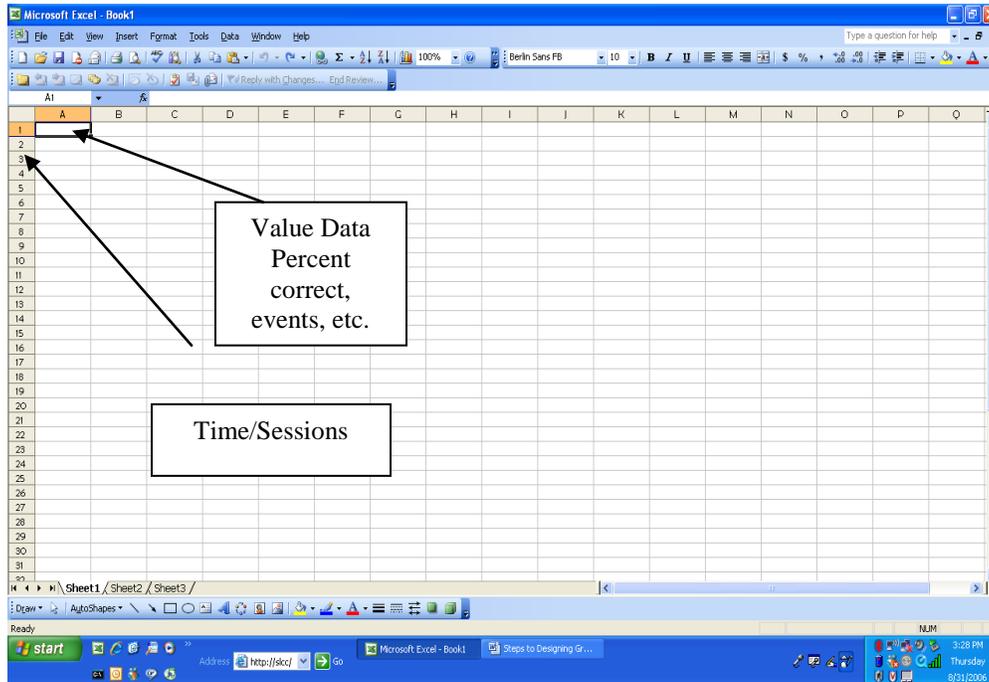
Figure 3.14. Elements of a Graph



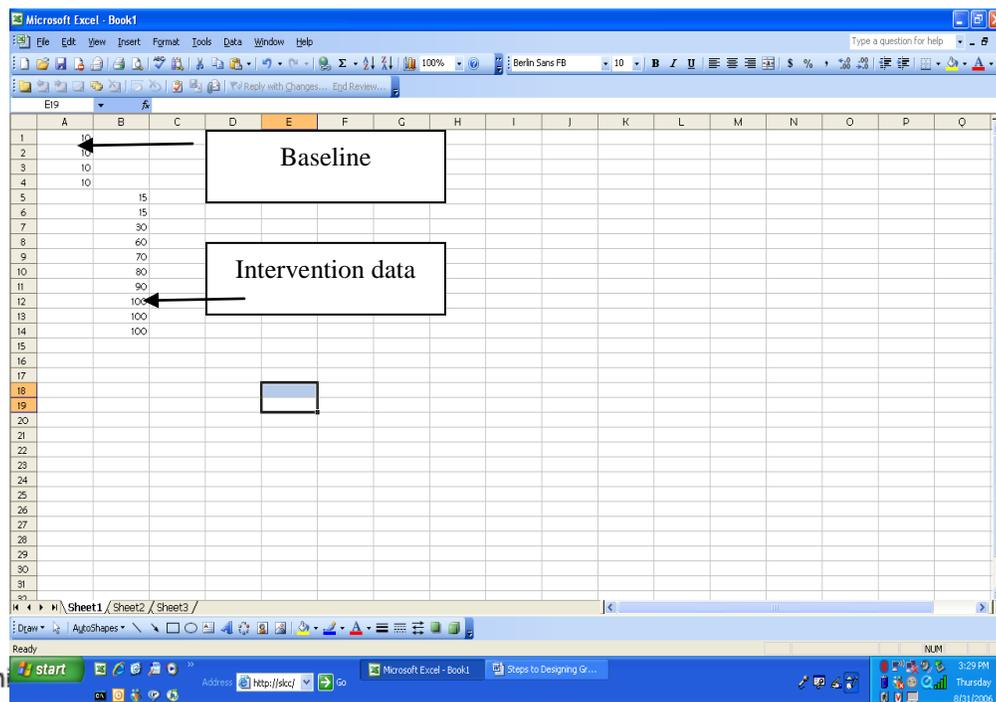
In order to create a line graph, you need to convert your raw data to format that can be graphed, including percentages, time, frequency counts, etc. The converted data can then be entered to a spreadsheet to plot and graph the data. You can use Microsoft Excel graphing application to effectively summarize an individual's data into a line graph format.

Steps to Designing Graphs Using Microsoft Excel

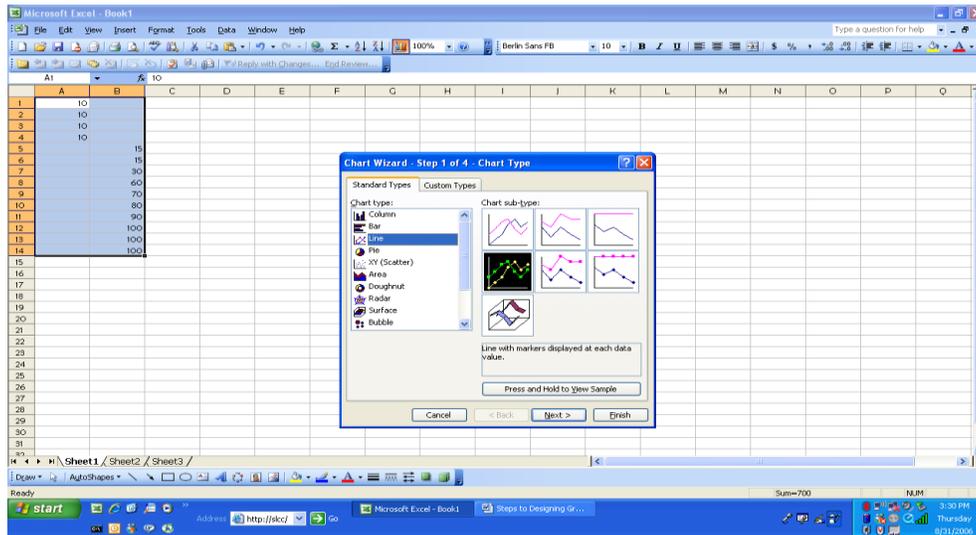
1. *Entering Data into the Spreadsheet.* When you open Excel you will see columns labeled A, B, C..... that represent the values of the dependent variable and rows labeled 1,2,3.....that show the sessions that represent time.



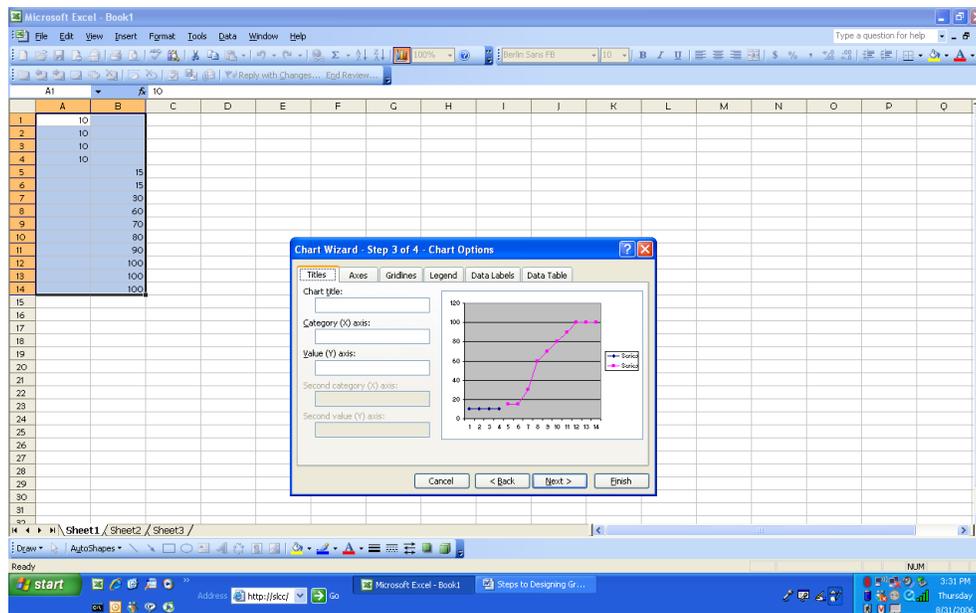
- a. Enter the baseline in Column "A," beginning with A1 and use one cell for each data point.
- b. Enter the intervention data in Column "B," beginning with the row following the last baseline entry.



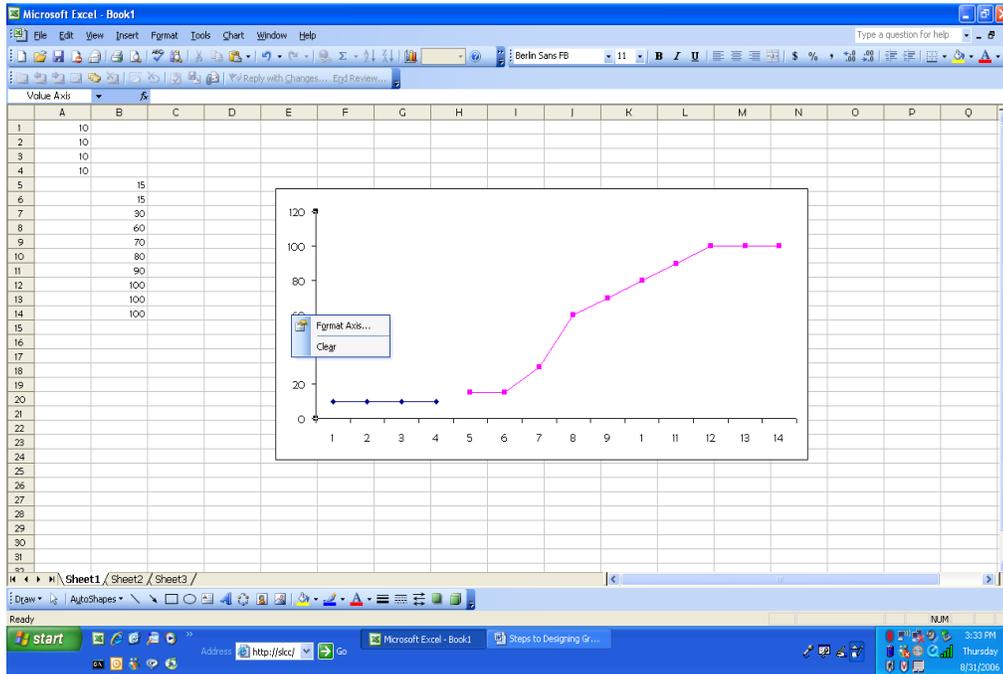
2. *Create the Graph.* Highlight the cells containing the data points (cells will be shaded). Left click on the chart icon and select line graph.



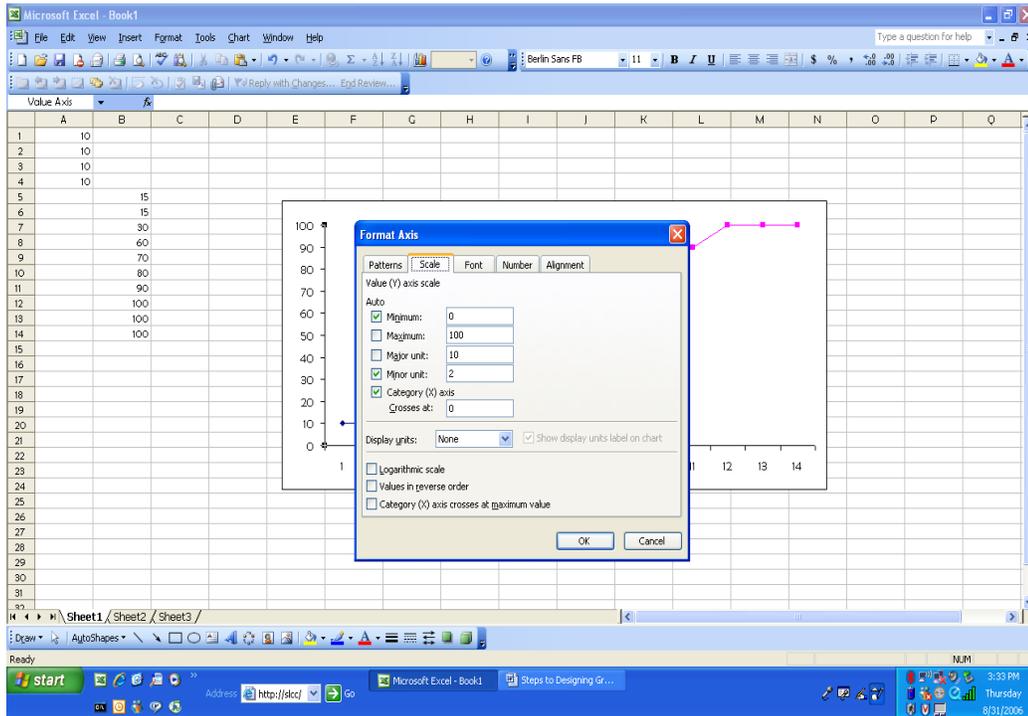
- a. Excel chart wizard will prompt you to complete several steps:
 - i. Click next on step 2 of 4.
 - ii. Enter Title and label X and Y axis on step 3 of 4.
 - iii. Click on gridlines. Click on the $\sqrt{\quad}$ from Y axis major gridlines and click finished.



3. *Format the graph.* Left click on the graph.
 - a. Click on format plot area. Change border and fill area to white.

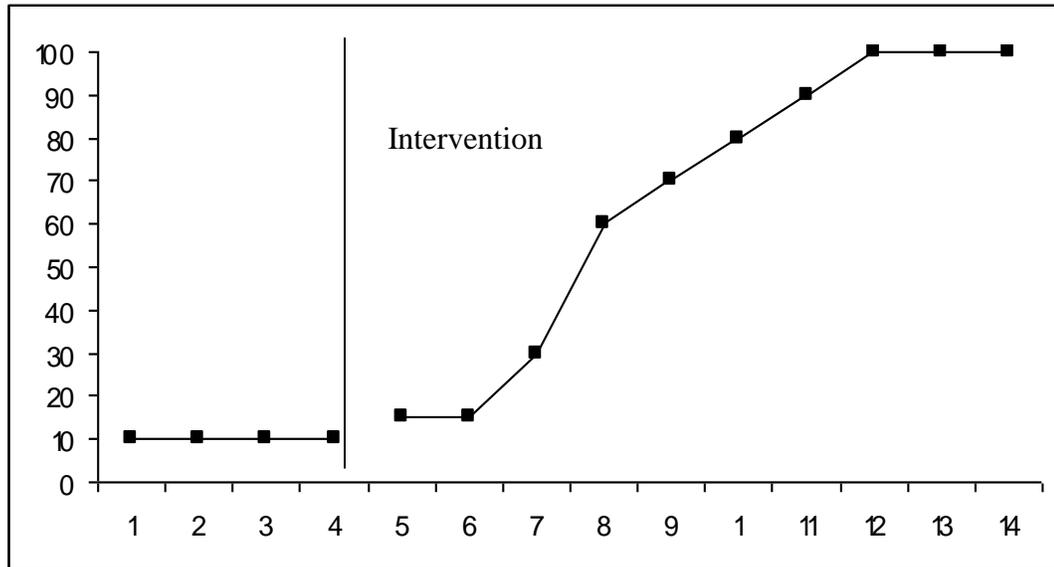


- b. Adjust the scale on the Y axis by right clicking on the y axis. Click on scale and adjust the major unit and maximum unit according to the type of data you are collecting.



- c. Draw a baseline line by clicking on the draw table and click single line. Place cursor on the tick line between the baseline and intervention data and drag line to the top of the graph.

Completed Graph



Summary

The purpose of developing comprehensive instruction programs is to ensure that the student will be successful on the job. There are a number of instructional strategies that can be used to support a student during job training. Selection of the training method should be based on what the student will respond to and how he or she learns best. It is equally important to understand how to use and fade prompts, understand how to reinforce, and error correct. By using the appropriate instruction strategy in employment training programs, students will learn the requisite skills to function more independently. Providing instruction in community-based settings requires close coordination between the paraeducator and certified teacher.

Key Terms



<i>Antecedent</i>	Conditions that occur prior to a behavior.
<i>Backward Chain</i>	Provide assistance on the steps of the chain until the last step. Instruction begins on the last step.
<i>Behavior</i>	Response to the antecedent or stimulus condition.
<i>Consequence</i>	Events that occur after the behavior and affect the likelihood that the behavior will occur under similar circumstances.
<i>Constant Time Delay</i>	Constant time delay is an errorless instructional strategy that involves fading a prompt over time.
<i>Duration Data</i>	Duration data refers to the amount of time it takes an individual to perform a behavior. Duration data are collected by timing from the beginning of a behavior to the end of a behavior.
<i>Event Recording</i>	Counting and recording the number of times a specific response occurs.
<i>Forward Chain</i>	Instruction begins on the first step of the chain and assistance is provided on remaining steps.
<i>Latency Data</i>	Latency refers to the amount of time between the end of an antecedent or prompt and the beginning of a response.
<i>Least-to-Most Prompts</i>	The system of least-to-most prompts is an instruction approach that allows the student to respond at the level of prompt they need to complete the target behavior.
<i>Operationalize</i>	To describe a behavior in observable and measurable terms
<i>Most-to-Least Prompts</i>	The system of most-to-least prompts is an instructional strategy that systematically fades the instructor's assistance from the point of the most amount of assistance needed to ensure a correct response to the point where the individual can perform the target behavior independently.
<i>Prompt Hierarchy</i>	Prompts that are designed to increase the likelihood of a correct response from a student.
<i>Response Prompts</i>	Prompting fading strategies are used to systematically fade teacher prompts so that the student can independently perform a skill or routine.
<i>Task Analysis</i>	Identification of smaller discrete skills that are part of a larger sequence in a behavior chain. Subsequently used to teach a student a skill.
<i>Total Task</i>	Teach and fades assistance on all of the steps in chain simultaneously.

Test Review



True or False

True	False	The prompt hierarchy list prompts in the order of the effectiveness.
True	False	When using a backward chain, the student performs the task backward.
True	False	According to the antecedent, behavior, consequence paradigm, consequences are always negative.
True	False	Response prompts are designed to fade teacher support over time.
True	False	A task analysis requires the teacher to breakdown complex skills or routines into smaller teachable units.
True	False	It is appropriate to use food as reinforcement in some situations.
True	False	A job analysis should be conducted after the student completes the job training program.
True	False	According to the antecedent, behavior, consequence paradigm, an antecedent cues the student to respond.
True	False	Prompts should never be blended because it can confuse the student.

Multiple Choice

Counting and recording the number of times a specific response occurs is an example of?

- a. Event Recording
- b. Modeling
- c. Duration
- d. Latency

The system of _____ is an instruction approach that allows the student to respond at the level of prompt they need to complete the target behavior.

- a. Constant time delay
- b. Most-to-least prompts
- c. Least-to-most
- d. Wait and see

The system of _____ prompts is an instructional strategy that systematically fades the instructor's assistance from the point of the most amount of assistance needed to ensure a correct response to the point where the individual can perform the target behavior independently.

- a. Progressive
- b. Least-to-most
- c. Most-to-least
- d. Wait and see

What type of data is collected by timing from the beginning of a behavior to the end of a behavior?

- a. Ongoing
- b. Time-limited
- c. Duration
- d. Latency

_____ refers to the amount of time between the end of an antecedent or prompt and the beginning of a response.

- a. Antecedent test and prompt
- b. Latency
- c. Fluency
- d. Wait and see

What type of prompt is being used when a teacher cues a student to perform a component of a TA without telling the student exactly what to do?

- a. Direct Verbal
- b. Incidental
- c. Indirect Verbal
- d. None of the above

Reflection Box Feed Back



Box 1. Which of the following terms is neither observable nor measurable? Explain why.

Writes	Understands	Names
Initiates	Demonstrates	Touches
Mops	Stacks	Sweep
Reads	Reads orally	Anger
Awareness	Aggression	

The highlighted items are not operational terms because they do not have a clear beginning and ending. For example, consider the following objective: *Bill will reduce anger in the classroom.* Anger could be interpreted to mean a variety of things such as swearing, hitting, spitting, slapping, etc.

Box 2. What are some potential problems with using food and drink to reinforce students in an employment setting?

First, people have a right to eat and drink whenever they are hungry and thirsty. The right to food and drink is diminished when it contingent of an appropriate behavior. Second, we are trying to teach students about work and merits of work; if we use food to entice students to participate in job training and sampling, then they may want to work just because there is food involved. Finally, some students with disabilities have dietary concerns and the use of food as reinforcement may interfere with their diet.

Box 3. You are working with a student who has to wear reinforced work shoes at his job training site. He changes his school shoes to the reinforced shoes at the job-site. However, he does not know how to tie his shoes. You need to develop an instructional program to teach him this important skill. Below is the baseline data you collected. Develop an instructional sequence.

Cue	Step	Teacher Prompt
Shoe untied	Grasp ends of laces	Independent
Laces in hand	Pull laces tight	Independent
Laces tight	Cross laces	Independent
Laces crossed	Tuck one lace under crossed laces	<ol style="list-style-type: none"> 1. "Tuck one lace under crossed laces." + Model. 2. "Tuck on lace under crossed laces." 3. "What is next?" 4. Independent
Lace tucked under lace	Pull tight	<ol style="list-style-type: none"> 1. "Pull the laces tight." 2. "What is next?" 3. Independent
Laces tight	Make loop (bunny ear)	<ol style="list-style-type: none"> 1. "Make a loop." + Model 2. "Make a loop." 3. "What is next?" 4. Independent
Loop in hand	Wrap other lace around bottom of loop	<ol style="list-style-type: none"> 1. "Wrap second shoelace around bottom of loop." 2. Independent
Lace wrapped around loop	Pull through hole	Independent
Lace through hole	Pull tight	Independent
Repeat for other shoe		Independent

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Appendix

Job Analysis Form

Employer:
Address:
Supervisor: **Phone:** **Email:**

Training Schedule:

Notes

Time	Description of Job Duty	Speed	Quality	Task Analysis Required	
				Yes	No

Task Analysis		
Task/Step	Speed	Quality

Baseline Data			
Steps			
<p>Key - + = Independent. IV = Indirect Verbal V= Direct Verbal G = Gesture M= Model PP = Partial Physical FP = Full Physical</p>			

